



**Summary of Substantive Changes
between the 2009a and 2011 editions of
NSF/ANSI 50, “Equipment for Swimming Pools, Spas, Hot Tubs
and other Recreational Water Facilities”**

Presented to the IAPMO Standards Review Committee on April 9, 2012

General: The changes to this standard might have an impact on the marking and installation instruction requirements for currently listed products. The changes are:

- Added requirements for filtration media labeling (Sections 5.2.9.2 and 5.3.4.3.2);
- Added additional information requirements on product data plates (Sections 5.3.7.1, 9.12, and 10.9);
- Added an optional evaluation of pumps for energy efficiency (Section 6.6.3 and Annex C.4);
- Equalizer lines for skimmers were made optional (previously, the standard only addressed equalizers for public swimming pools) (Section 8.4);
- Included requirements for automated fixed-rate chemical feeding machines (Section 9);
- Added requirements for filtration media for commercial and residential filters; and
- Included UV systems for treating cryptosporidium (Section 13.18).

Section 5, Filters:

Sections 5.2.9.2, Precoat media labeling requirements, and 5.3.4.3.2, Sand-type media labeling requirements: Added the following:

Manufacturer’s name and address;

Product identification (product type, and tradename);

Net weight or net volume;

When applicable, mesh or sieve size;

Lot number or other production identifier such as a date code;

When appropriate, special handling, storage and use instructions; and

The specific certification mark of the certifying organization for certified products.

Section 5.3.7, Data plates~~(s)~~

Section 5.3.7.1: updated the product data plate and clarified the marking requirements for vacuum service filters to specify collapse pressure as follows:

- *manufacturer’s name and contact information (address, phone number, website, or prime supplier;*

- *filter serial number or date code;*

- *working pressure, or design collapse pressure for vacuum filter tanks,*

Section 6.63: Added the following optional evaluation of pumps for energy efficiency:

If energy efficiency performance testing is requested by the manufacturer, evaluate the pump in accordance with Annex C, section C.4.

Section 8.4, Equalizer line (~~public pools~~):



Section 8.4.1: Revised the language to make optional that skimmers have equalizer lines. Added a note to clarify that the installation of skimmers equipped with equalizers for public pools is governed by local jurisdictions and codes, and to specify that suction fittings must be in conformance with ANSI/ASME A112.19.8.

Section 8.8, Operation and installation instructions:

Section 8.8.2: Added the requirement for additional installation instructions as follows;

The skimmer manufacturer shall specify the minimum flow rating of the suction fitting (which meets or exceeds the maximum flow rating of the skimmer suction line).

To address jurisdictions that do not allow skimmers to be installed with equalizer lines, the skimmer manufacturer shall provide instructions for disabling (i.e., installation of the skimmer without the equalizer line) the equalizer line.

The skimmer manufacturer may or may not supply the suction fitting with the skimmer.

Section 9, Mechanical chemical feeding equipment: Revised to allow for automated, fixed-rate mechanical chemical feeding equipment, as follows:

This section ~~does not apply~~ applies to fixed rate or single rate mechanical feeding equipment ~~that does not have adjustable output rates,~~ (for use with automatic control systems) and mechanical feeding equipment with adjustable output rates. This section does not contain requirements for chemical feeding equipment that relies on the flow rate of water in the recirculation system, or equipment designed to feed gases.

Section 9.4.3: The following output rate requirement was added;

Fixed or single rate mechanical chemical feeders shall deliver chemicals in slurries, solutions, or solids, at an output rate that is within $\pm 10\%$ of feed rate at 100% of the rated capacity when operated at the maximum back pressure recommended by the manufacturer (see Annex F, section F.5).

Section 9.12, Data plate~~s~~(s): Updated the product data plate to reference a web address and phone number, and added a requirement for fixed/single rate feeder as follows;

- manufacturer's name and contact information (address, phone number, website, or prime supplier);
- If the unit is a fixed rate or single rate mechanical chemical feeder include the following, "Fixed/single rate feeder for use only with certified automatic controller."

Section 10, Flow-through chemical feeding equipment:

Section 10.9, Data plate~~s~~(s): Updated the product data plate to reference a web address and phone number as follows;

- manufacturer's name and contact information (address, phone number, website, or prime supplier);

Section 11, ~~General requirements for process equipment~~ Filtration Media: Editorial revision of the NSF/ANSI 50-2011 standard redistributed the requirements in former section 11 General requirements for processing equipment and consolidated the requirements for filtration media into a new Section 11 Filtration Media

- Section 11, ~~General requirements for process equipment~~ was removed. The general requirements were moved to sections:
 - 12.3-12.6, 12.8, 12.9;



- 13.2-13.6, 13.8, 13.9;
- 14.2-14.6, 14.8, 14.9;
- 15.2-15.6, 15.8, 15.9; and
- 16.2-16.6, 16.8, 16.9;
- Section 11, [Filtration Media](#): Consolidated the requirements for filtration media for use in commercial and residential filters. Added media labeling requirements for precoat filter media and sand and alternate sand-type filter media and added requirements to include installation instructions for precoat filter media.

Section 11.1, Scope: Removed the following note regarding use of hydrogen peroxide with UV and DE (pre-coat type) filtration systems:

~~*Note-Ultraviolet-hydrogen peroxide processes are not compatible for use with diatomite-type filters.*~~

Section 12, Ozone process equipment:

Section 12.1, General: Updated the language relating to required levels of residual disinfectants for use with Ozone process equipment as follows:

~~*Ozone process equipment covered by this section is intended to provide an [antimicrobial](#) oxidizing agent for use in [supplemental treatment of](#) circulation systems of public and residential swimming pools and spas/hot tubs. [Since these products are not intended to produce residual levels of disinfectant within the body of the swimming pool or spa, these products are intended for use with appropriate residual levels of EPA registered disinfecting chemicals. Specific residual levels of EPA registered disinfecting chemicals may be required by the regulatory agency having authority.](#) [A disinfecting chemical shall be added to impart a measurable residual chemical.](#)*~~

Section 13, Ultraviolet (UV) light process equipment:

Section 13.1, General: Updated the language relating to required levels of residual disinfectants for use with ultraviolet (UV) light process equipment as follows:

~~*[UV](#) Ultraviolet light process equipment covered by this section is intended for use in [supplemental treatment of](#) circulation systems of public and residential swimming pools and spas/hot tubs [with hydrogen peroxide, chlorine, or bromine residual chemical.](#) [Since these products are not intended to produce residual levels of disinfectant within the body of the swimming pool or spa, these products are intended for use with appropriate residual levels of EPA registered disinfecting chemicals. Specific residual levels of EPA registered disinfecting chemicals may be required by the regulatory agency having authority.](#) [The residual chemical shall be easily and accurately measurable by a field test kit.](#) [If a system is used with hydrogen peroxide, a maximum concentration of 35% solution in water shall be continuously fed to maintain a minimum residual of 20 mg/L. Otherwise, these systems shall be used in conjunction with not less than 1 ppm free chlorine or 2 ppm bromine.](#)*~~

Section 13.18, UV cryptosporidium Inactivation and dose determination: Added the requirements for UV Systems used to treat cryptosporidium parvum, the new subsections are:

- Section [13.18.1, Sample selection](#): and
- Section [13.18.2 Testing](#):

Section 16, Copper/silver and copper ion generators:

Section 16.1, General: Updated the language relating to required levels of residual disinfectants for use with Copper/silver and copper ion generators as follows:



These products are intended for use with appropriate residual levels of EPA registered disinfecting chemicals. These systems are typically designed to operate ~~shall be used in conjunction~~ with no less than 0.4 ppm free chlorine or 0.8 ppm bromine. Additional levels of EPA registered disinfecting chemicals may be required by the regulatory agency having authority. The residual chemical shall be easily and accurately measured by a field test kit.

Annex C.4, Pump curve and energy efficiency performance: This Annex was added for optional evaluation of pumps for energy efficiency.